Science and Math Liaison Meeting

April 1, 2016

Present: Steven Bogaerts, Dana Dudle, Bridget Gourley, Alex Komives, Pam Propsom, Jackie Roberts, Fred Soster, Brian Wright

Psychology hasn’t talked about data in 100-level courses yet.

Dana reported that the Biology Department has discussed. One question they asked Bill Tobin was how this affects persistence; that is, how did student success (C and above) influence whether or not students continued in the major. They found the same pattern in the upper-level courses. They’re looking at things before and after the revision to the major. Student preparation comment comes up; better tutoring for students.

Steve said Computer Science has talked about it some. No decisive plans for what to do about it. They already have a group primarily for women in CS. Khadija is interested in pursuing a similar group for minority or other underserved students.

Bridget talked about the Women in Science group. A current group of Underrepresented In Science (UIS), but they’re not interested in the same things that drew students to Women in Science. Have to find out what the students want and what’s appealing to them, but their time is already so “fractured,” they have so many meetings and activities they’re engaged in.

In Chemistry, their Chem 170 course is self-paced and has a high dropout rate. They’ve had some conversations about how to address this. One thing they discussed is how research has been something that keeps students committed to science; how could research be better integrated into their intro courses? Dana said the Chem 120 data would be interesting to Bio because it’s a required course for their major.

Fred reported that Geosciences talked about it several weeks ago. They’re concerned about it, the pattern is there. Student preparation is an issue and do the groups (DSOC, first generation, white students) differ by preparation coming in the door? It would be interesting to have that data as well.

We discussed possible explanations: underprepared students or unwelcoming classrooms/pedagogy? Might be different solutions to address each, but on the other hand, perhaps similar strategy (e.g., high structure classrooms where students are working in groups with higher-level cognitive activities) could address both.

Dana shared the concept she’s heard about face threat—student who’s done poorly on exam has to go in to see the professor who’s given them this grade, and it takes so much energy to maintain their face and not fall apart that they can’t even process what’s being said. Someone suggested giving students a blank test to discuss so they don’t have to keep confronting their bad marks and grade, and they can discuss that. Or post in on Moodle so they can try it again.

Brian talked about Kinesiology. What are these students’ grades in other courses? Are they just a C- students (but they are taking courses in other curricular areas and the patterns are not as strong there). They don’t even know where to start in discussing this. Talked about environment in the classroom and the environment in the major. Nationally there are about 60% women in Kines, and a high proportion of these females are athletes. This might influence the concept of “teamwork” in class (moreso upperlevel courses in the intro courses).

Do departments have spaces where students can gather?

Students are already overcommitted so more clubs that require more time don’t seem like they’ll be “the answer.” One way to address it might be in the already existing classrooms. Collaboration between classes (given that students are often taking multiple science and math classes at the same time).

Alex said they looked at it in Physics, but it was a tense week anyway so it didn’t really produce much conversation.

We discussed the recent study and talk by Susan Hahn and Susan Wilson regarding International student and writing. For some international students, the writing tutors are the only people they speak English with outside of the classroom and for some they felt the writing tutor was their only American friend.

Jackie reported that she, Pam, and Bill Tobin applied for a small grant, which would provide funding for Senior Day Assessment and mini-grants for teams of faculty to revise their courses together. We have June 13, Alison Williams, a chemist at Denison, will offer a workshop on inclusive pedagogy. Still working on Melanie Cooper (chemist from Michigan) for June 7 one-day workshop on how one can address fewer threshold concepts. She has done work showing that removing content doesn’t hurt Chem majors’ performance on the national ACS test.

Next liaison meeting: solve all the problems.

Ideas for next division meeting? Use for brainstorming about this issue? Q tutors that are more “contenty”—really need to have the content and the subject tutors just haven’t taken off enough yet (the tutors are often there for just one semester with one professor). Is there a different way to do tutoring? Face threat topic (which may be an issue for males as well, who have lower GPAs in our courses)? What do we do with a generation of students who are coming in with weaker math skills in general? Departments count on other departments’ intro level courses a lot, but do we actually know what others are doing in their courses and is our requirement that they take that course actually meeting the reason we think they should take it? What are we hoping is transferring from one course to another? Do we have a similar vocabulary across our disciplines/departments? (These latter topics might be bigger and for a later, longer conversation.) Writing in the major and transfer across science disciplines?